PRESENTATION OF MOTOR SICH JSC

The whole history of national aviation industry is inseparably linked with Zaporozhye-based Motor Sich Joint Stock Company. The factory, which begun its history in 1907 from production of agricultural machines and tools, has passed a glorious working way during 100 years and became known to the world as a leading aircraft engine-building company.

Today Motor Sich JSC is one of the world-biggest companies in the field of development, manufacture, testing, service support and overhaul of efficient and dependable engines for airplanes and helicopters of various applications. The aircraft with engines of Motor Sich JSC are operated in more than 120 countries worldwide.

The combination of intellectual potential, high corporate culture, creative spirit and developed scientific and technical infrastructure enables Motor Sich JSC to produce reliable aircraft engines and gas-turbine plants competitive on the world market. The promising scientific-technical and design-engineering solutions developed and incorporated at Motor Sich JSC are based upon the latest achievements of science and technology. Close cooperation with the design agencies and multiple partners helps the factory produce engines to conquer the air routes.

We welcome our traditional partners and are always ready to meet new partners interested in collaborative projects and mutually-beneficial cooperation!

Vyacheslav A. Boguslayev

Chairman of the Board
of Directors, Motor Sich JSC

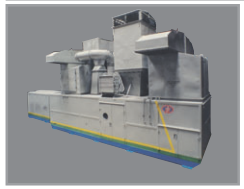
MOTOR SICH JSC

Foundation: 1907

Committment: development and production of gas-turbine engines for military and civil aviation, industrial drives and power generating sets, consumer goods.

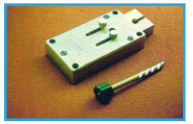
Structure: 14 structural divisions situated in different regions of Ukraine as well as representation offices in Ukraine (Kiev), Russia, China, India, UAE, Algenia.

Personnel: over 21,000 employees.



Volochisk Machine-Building Plant (VMBP)

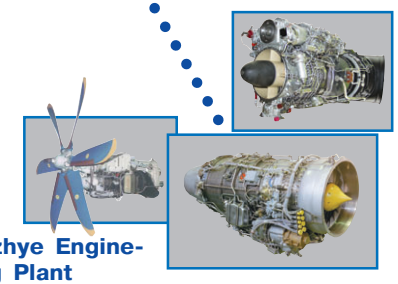
Snezhnoye Machine-Building Plant (SMBP)



Gulayipole Machine-Building Plant (GMBP)

Gulayipole Mechanical and Repair Plant (GMRP)

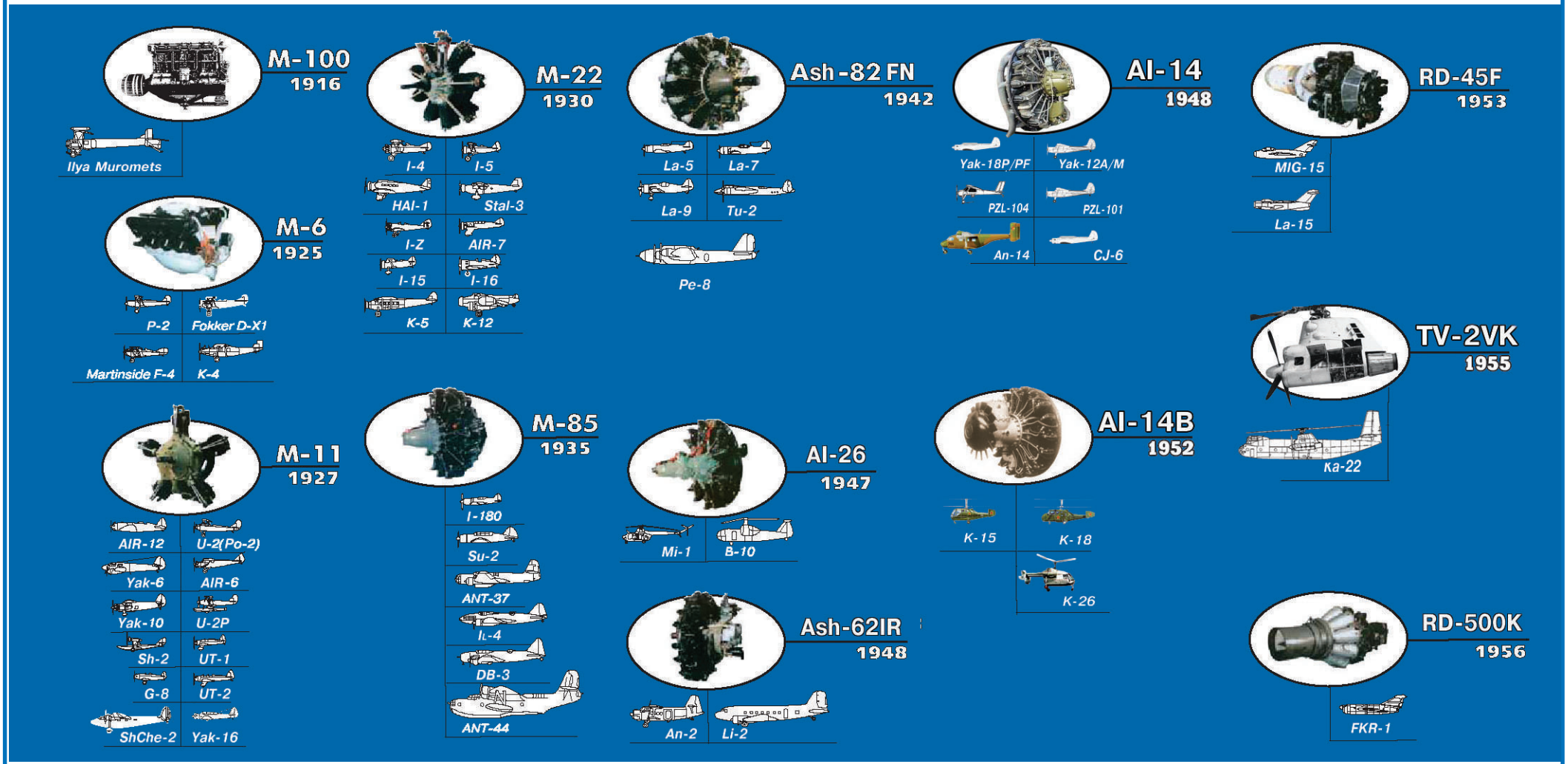
Zaporozhye Omelchenko Machine-Building Plant



Zaporozhye Engine-Building Plant

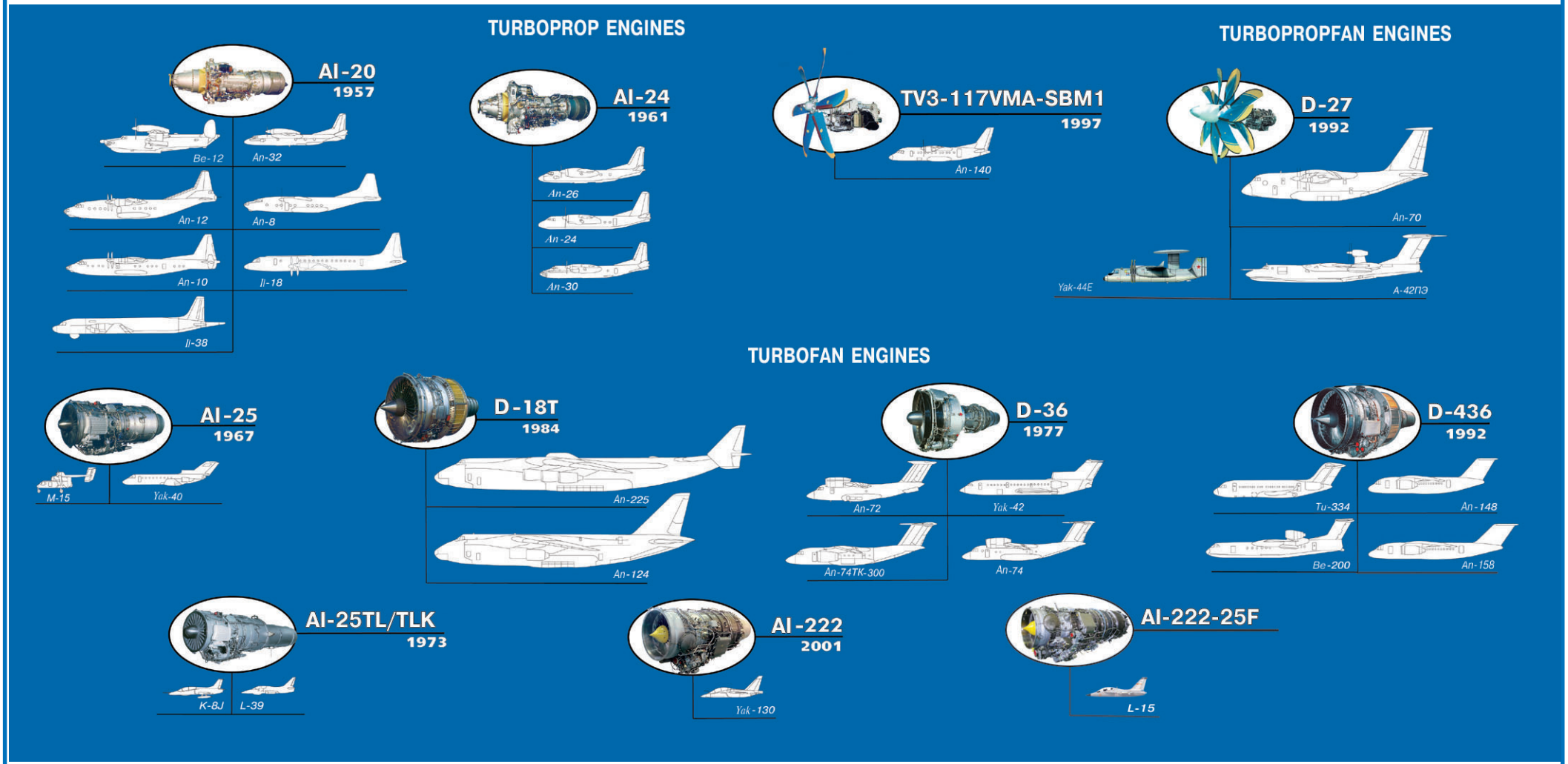
1916
1956

From piston to gas-turbine engines



1957
2010

Gas-turbine engines of Motor Sich JSC production



1957
2010

Gas-turbine engines of Motor Sich JSC production

AUXILIARY GAS-TURBIN ENGINES

AI-8
1964

AI-9
1967

AI-9B
1974

AI-24UBE
1981

AI9-3B
1997

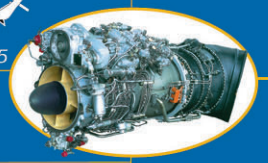
AI-450-MS
2003

AI-450
2001

Mi-2M

TURBOSHAFT ENGINES

Mi-24, Mi-25, Mi-35



TV3-117
1970

Ka-29

Ka-50

Ka-31

Ka-32

Mi-17, Mi-171, Mi-172

Mi-8MT

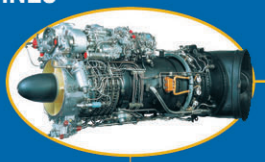
Mi-28

Mi-14

MS-500B
2008

Mi-54

Ansat



VK-2500
2001

TV3-117VMA-SBM1V
2007

Mi-24, Mi-25, Mi-35

Mi-17, Mi-171, Mi-172

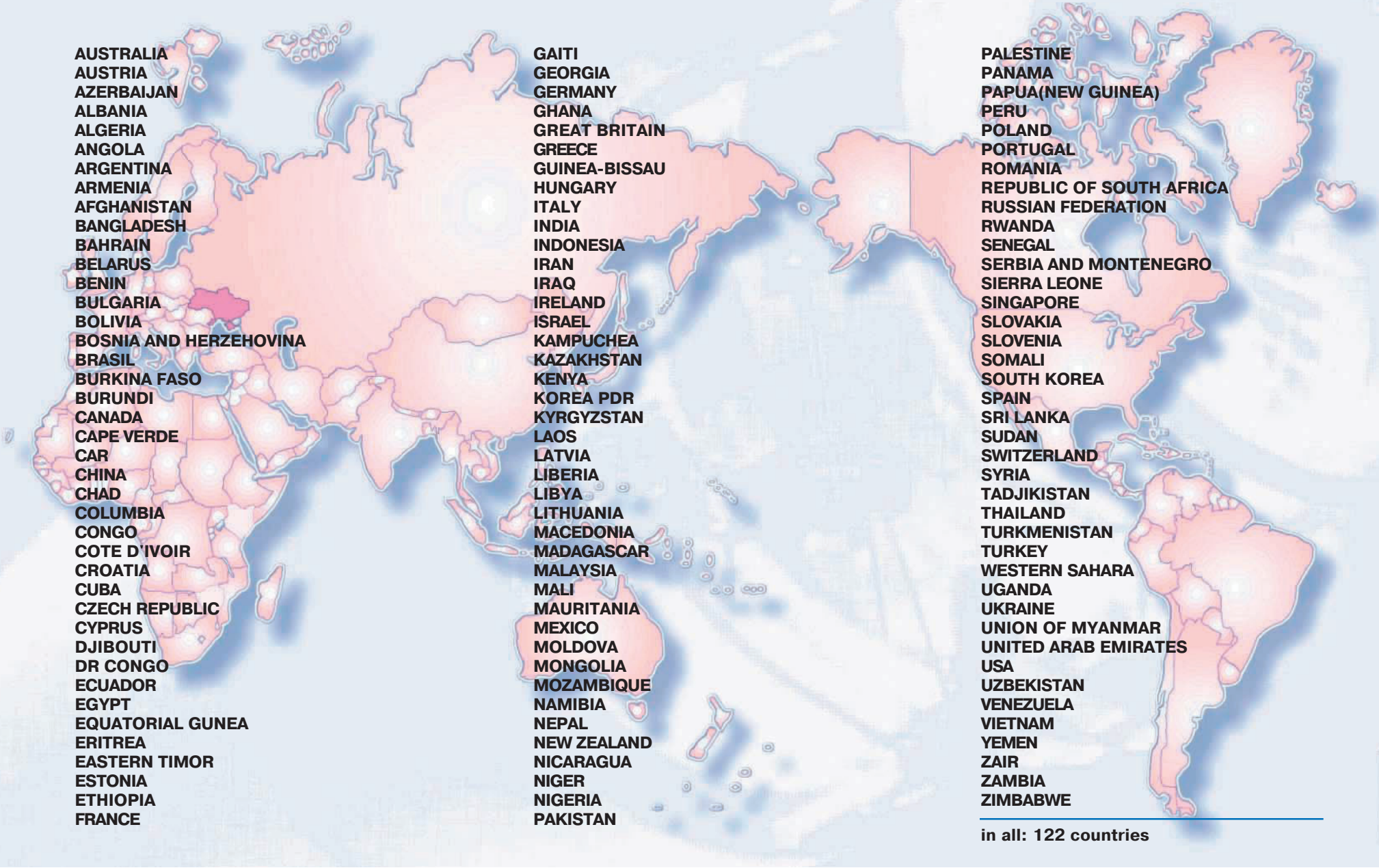
Ka-32

Mi-28

D-136
1982

Mi-26T, Mi-26

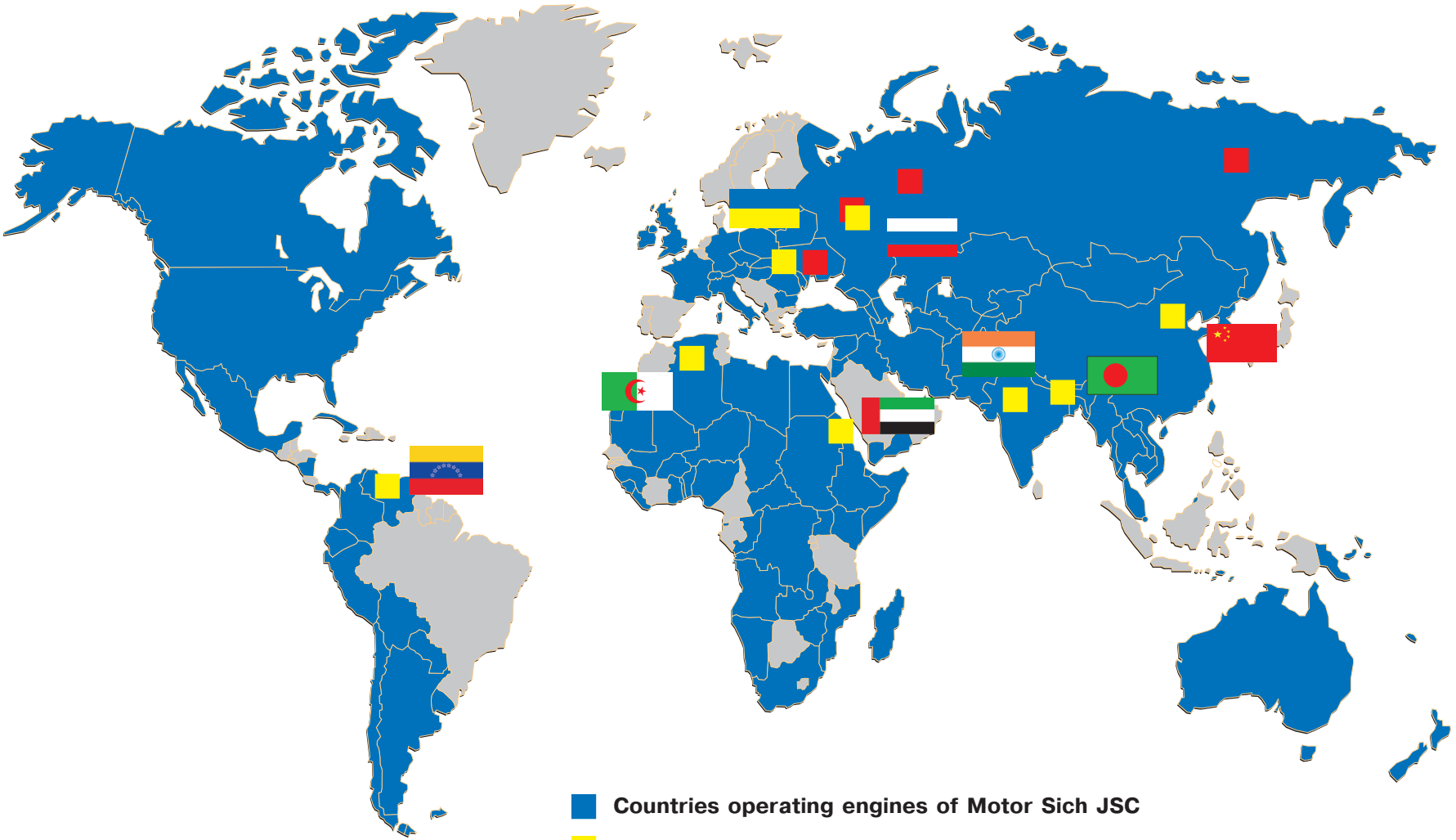
COUNTRIES OPERATING AIRCRAFT POWERED BY MOTOR SICH JSC ENGINES



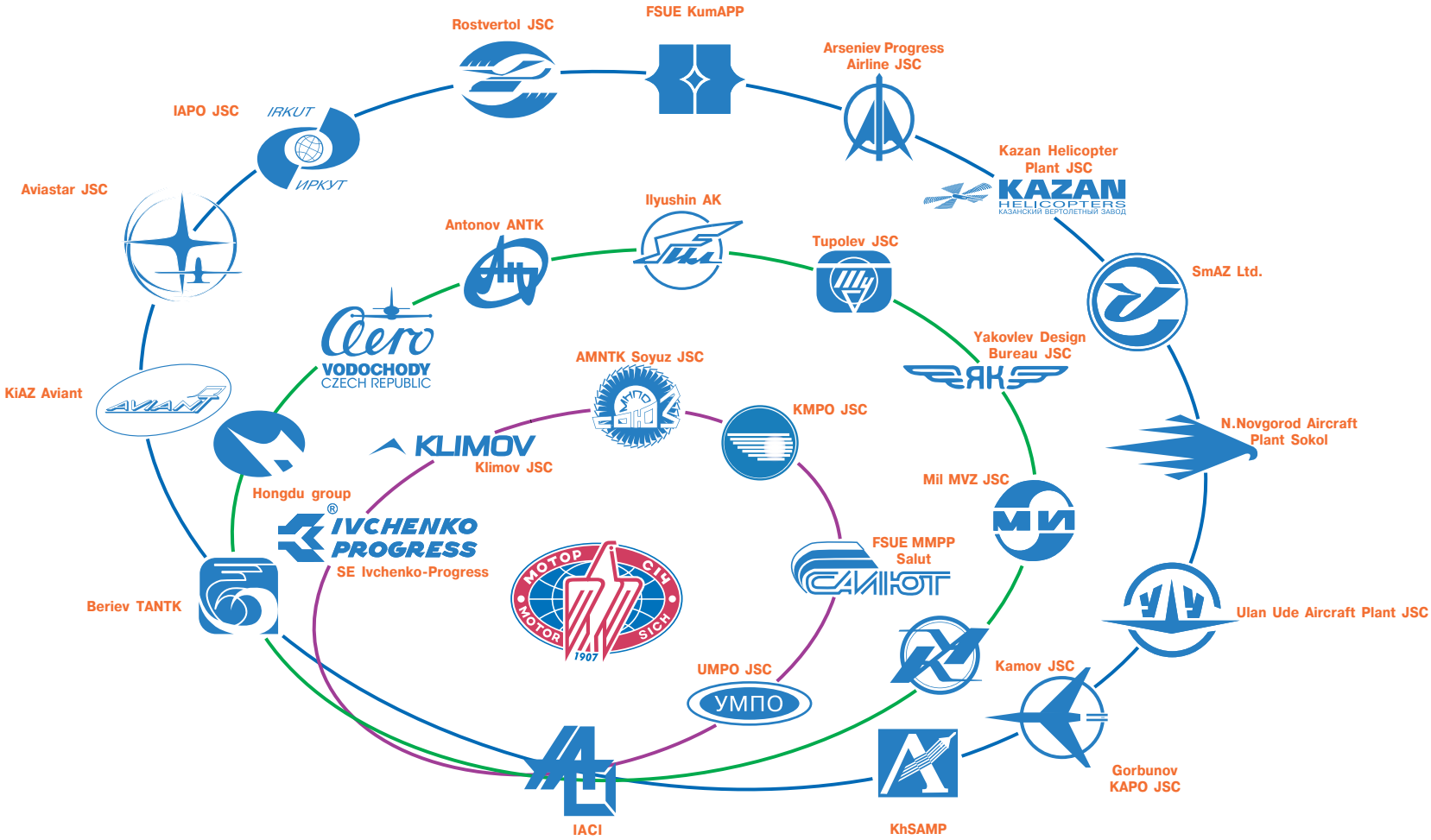
AUSTRALIA
AUSTRIA
AZERBAIJAN
ALBANIA
ALGERIA
ANGOLA
ARGENTINA
ARMENIA
AFGHANISTAN
BANGLADESH
BAHRAIN
BELARUS
BENIN
BULGARIA
BOLIVIA
BOSNIA AND HERZEHOVINA
BRASIL
BURKINA FASO
BURUNDI
CANADA
CAPE VERDE
CAR
CHINA
CHAD
COLUMBIA
CONGO
COTE D'IVOIR
CROATIA
CUBA
CZECH REPUBLIC
CYPRUS
DJIBOUTI
DR CONGO
ECUADOR
EGYPT
EQUATORIAL GUNEA
ERITREA
EASTERN TIMOR
ESTONIA
ETHIOPIA
FRANCE
GAITI
GEORGIA
GERMANY
GHANA
GREAT BRITAIN
GREECE
GUINEA-BISSAU
HUNGARY
ITALY
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ISRAEL
KAMPUCHEA
KAZAKHSTAN
KENYA
KOREA PDR
KYRGYZSTAN
LAOS
LATVIA
LIBERIA
LIBYA
LITHUANIA
MACEDONIA
MADAGASCAR
MALAYSIA
MALI
MAURITANIA
MEXICO
MOLDOVA
MONGOLIA
MOZAMBIQUE
NAMIBIA
NEPAL
NEW ZEALAND
NICARAGUA
NIGER
NIGERIA
PAKISTAN
PALESTINE
PANAMA
PAPUA(NEW GUINEA)
PERU
POLAND
PORTUGAL
ROMANIA
REPUBLIC OF SOUTH AFRICA
RUSSIAN FEDERATION
RWANDA
SENEGAL
SERBIA AND MONTENEGRO
SIERRA LEONE
SINGAPORE
SLOVAKIA
SLOVENIA
SOMALI
SOUTH KOREA
SPAIN
SRI LANKA
SUDAN
SWITZERLAND
SYRIA
TADJIKISTAN
THAILAND
TURKMENISTAN
TURKEY
WESTERN SAHARA
UGANDA
UKRAINE
UNION OF MYANMAR
UNITED ARAB EMIRATES
USA
UZBEKISTAN
VENEZUELA
VIETNAM
YEMEN
ZAIR
ZAMBIA
ZIMBABWE

in all: 122 countries

OFFICIAL REPRESENTATION OFFICES



PARTNERS OF MOTOR SICH JSC DESIGNERS AND MANUFACTURERS OF AEROENGINES AND AIRCRAFT



CERTIFICATION

The quality assurance system of Motor Sich JSC has been certified by transnational company Bureau Veritas Certification for compliance with the requirements of ISO 9001:2008 relating to production, overhaul and maintenance of aeroengines and gas-turbine drives and designing gas-turbine power generating sets (Certificate No.148800 dated 18.02.2004).

Certificate No.OP 01-PD of IAC Aviation Register for production of up-to-date aeroengines.

Certificate No.SPR 11 of IAC Aviation Register for overhauling of production civil aeroengines.

Certificate No. R 56 of IAC Aviation Register for development of aeroengines for civil aircraft.

AI-450-MS

Auxiliary Two-Shaft Gas Turbine Engine with Auxiliary Compressor

Designer: Motor Sich JSC
Prototype production launched – 2003

An-148

An-158

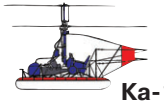
SPECIFICATIONS

(SLS, ISA)

Absorbed mechanical to drive generator, kW	40
Bled air consumption, kg/s	1.127
Bled air pressure, kgf/cm^2	4.75
Bled air temperature, ^{0}C, not more than	230
Fuel consumption, kg/h, not more than	118

60 YEARS OF EXPERIENCE IN THE FIELD OF DEVELOPMENT AND PRODUCTION OF ENGINES FOR HELICOPTERS RANGING FROM SUPER-LIGHT KA-10 TO THE WORLD MOST LOAD-LIFTING IN THE WORLD MI-26

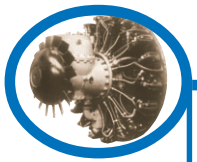
AI-4G
1946


Ka-10

AI-26
1947


Mi-1


B-10

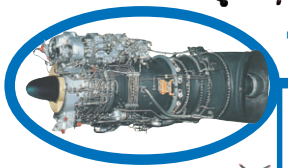


AI-14V
1952


Ka-15


Ka-18


Ka-26



TV3-117
1970

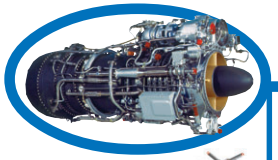

Mi-24


Mi-14


Mi-8MT


Mi-17, Mi-171, Mi-172


Ka-27



TV3-117V
1980


Mi-24, Mi-25, Mi-35


Mi-14


Mi-8MT


Mi-17, Mi-171, Mi-172


Mi-28


Ka-31


Ka-29


Ka-32


Ka-50


Ka-27


Ka-52

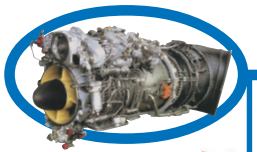
D-136
1982


Mi-26

AI-450
2000


Mi-2A


Ka-226



VK-2500
2001

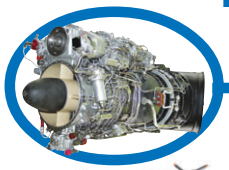

Mi-24, Mi-25, Mi-35


Mi-17, Mi-171, Mi-172


Ka-32


Mi-28


Ka-50



TV3-117VMA -SBM1V
2007


Mi-24, Mi-25, Mi-35

Mi-14

Mi-8MT

Mi-17, Mi-171, Mi-172

Mi-28

Ka-31

Ka-29

Ka-32

Ka-50

Ka-27

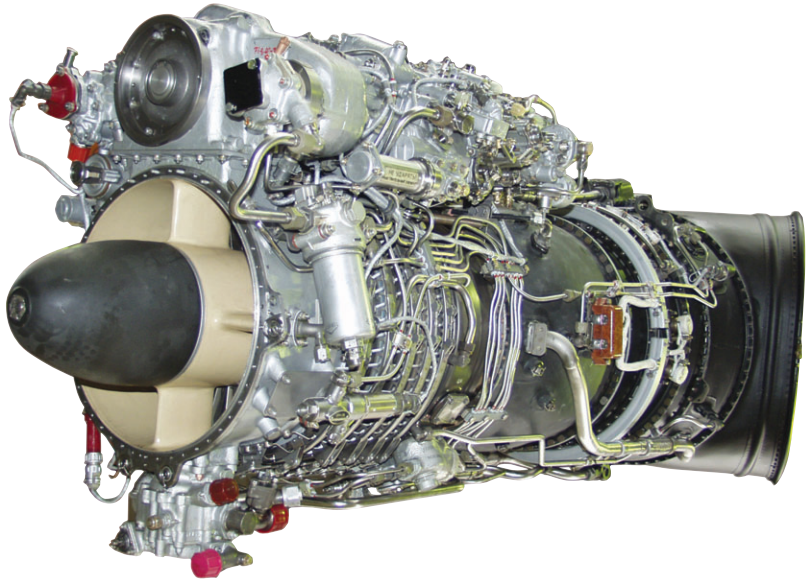
Ka-52

MS-500V
2008

Mi-54

Ansat

TV3-117VMA-SBM1V



Turboshaft Engine with Single-shaft Gas Generator and Free Turbine

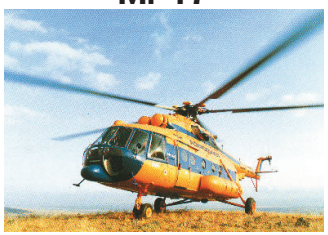
Flat-rated to high ambient temperatures, elevation of basing and altitude of flight as compared with the existing helicopter engines of similar class .

Designer and Manufacturer: Motor Sich JSC
Launched series production – 2008

Mi-14

Mi-28N

Mi-17



Mi-24

Ka-50

SPECIFICATIONS

2.5-minute power rating,
with one engine inoperative (OEI)
(SLS, ISA+10°C)
Power, shp (kW) 2,800 (2,059)

30-minute power rating, with one engine inoperative (OEI)
Continuous takeoff power rating (CTO) 30-min,
Takeoff power rating
(SLS, ISA)
Power, shp (kW) ..... 2,000*(1,470) .... 2,500*(1,838)
flat-rated, to t, °C ..... up to+51 ..... up to+35
SFC, kg/hp·h (kg/kW·h) ..... 0.220(0.299) ..... 0.209(0.284)

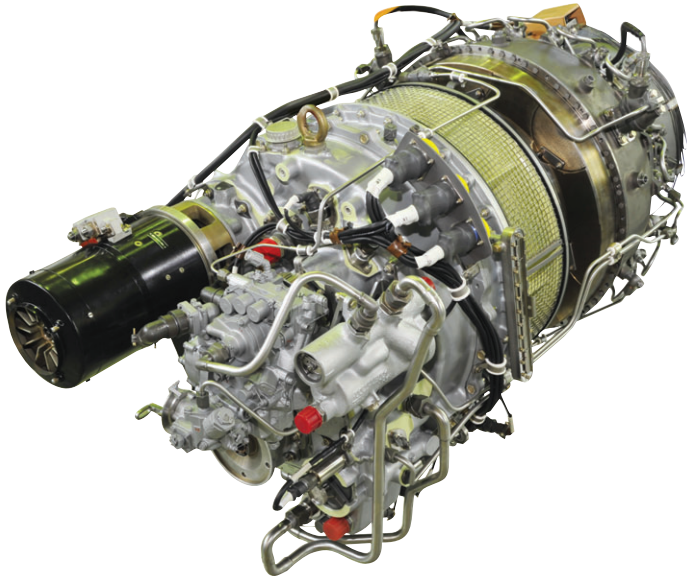
Cruise power rating
(SLS, ISA)
Power, shp (kW) ..... 1,500(1,104) 1,750 (1,278)
Flat-rated to t, °C ..... up to+45 ..... up to+35
Dry weight, kg 295

** The engine ACS permits to select power at takeoff as follows: 2,500; 2,400; 2,200; 2,000 hp (depending on the type of helicopter where the engine is installed).*

MS-500V

Family of turboshaft engines featuring a single-shaft gas generator with a single-stage centrifugal compressor, free turbine and built-in reduction gearbox.

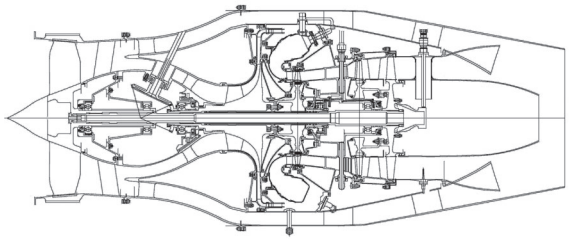
Designer and Manufacturer: Motor Sich JSC



SPECIFICATIONS

Engine	MS-500V	MS-500V-01	MS-500V-02
Emergency power rating (SLS, ISA):			
2.0-min power, hp (kW)		1,000 (735)	1,200 (883)
(flat-rated to tAMB, °C)	(+15)		(+30)
2.5-min power, hp (kW)	710 (522)	900 (662)	1,100 (809)
(flat-rated to tAMB,°C)	(+15)	(+25)	(+35)
30.0-min power, hp (kW)	659 (485)	850 (625)	1,000 (735)
(flat-rated to tAMB,°C)	(+25)	(+30)	(+30)
Takeoff power rating (SLS, ISA):			
Power, hp (kW)	630 (463)	810(595)	950(699)
(flat-rated to tAMB,°C)	(+35)	(+35)	(+30)
Specific fuel consumption, kg/hp·h (kg/kW·h)	0.260(0.354)	0.239 (0.325)	0.230 (0.313)
Cruise power rating (SLS, ISA)			
Power, hp (kW) (flat-rated to tAMB =+35°C)	450 (331)	450(331)	500(368)
Specific fuel consumption, kg/hp·h (kg/kW·h)	0.294 (0.400)	0.294 (0.400)	0.276 (0.375)
Dry mass, kg		140	

ENGINES OF MS-500 FAMILY BASED ON UNIFIED GAS GENERATOR

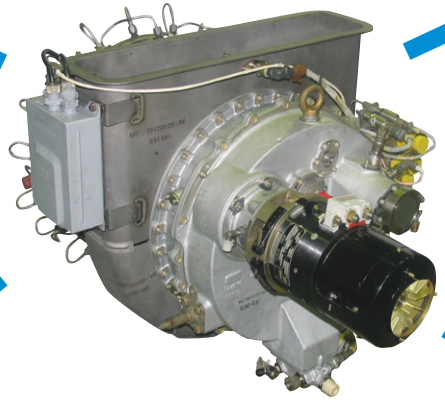


MS-500D

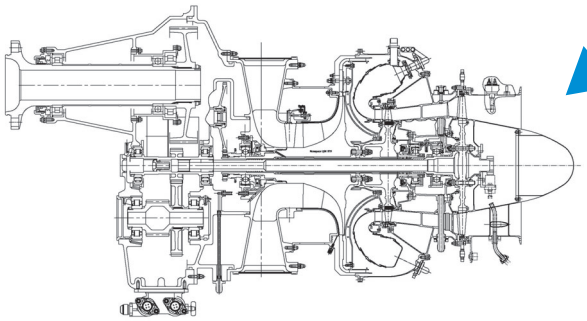
Bypass turbojet engine
Takeoff thrust - 665 kgf

MS-500V

Turboshaft engine and its modifications
Takeoff power - 630 to 950 hp

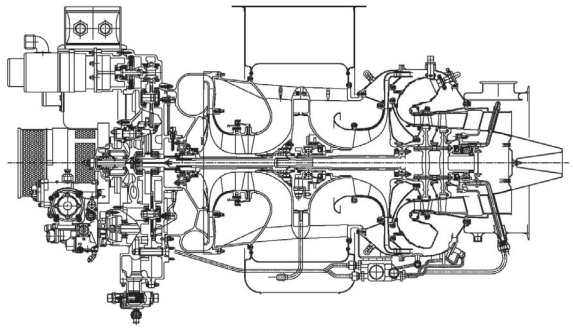


Unified gas generator of engines of MS-500 family



MS-500S

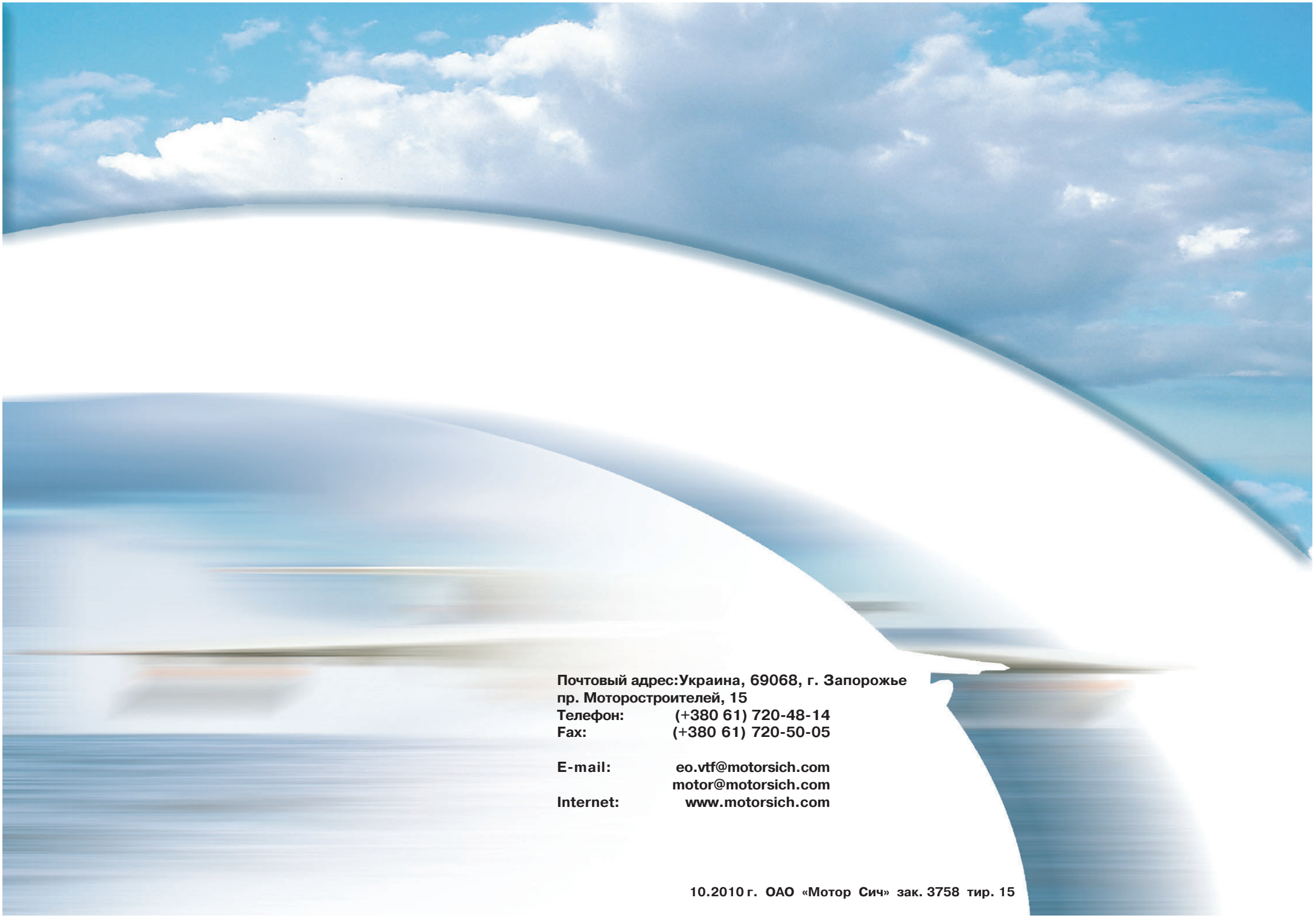
Turboprop engine
Takeoff power - 800 hp



MS-500VD

Auxiliary engine
G_{BLEED} - 1.7 kg/s
N_{GEN} = 60 kW

THANK YOU FOR ATTENTION!



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пр. Моторостроителей, 15
Телефон: (+380 61) 720-48-14
Fax: (+380 61) 720-50-05

E-mail: eo.vtf@motorsich.com
motor@motorsich.com
Internet: www.motorsich.com

10.2010 г. ОАО «Мотор Сич» зак. 3758 тир. 15